

REMARKS

In accordance with the foregoing, claims 1, 9, 19, and 26 have been amended. Claims 1-34 are pending and under consideration. The following remarks are respectfully submitted.

I. Rejections under 35 U.S.C. § 103

Claims 1-3, 5-12, 14-17, 19-24, 26, 27 and 29-34 stand rejected as being obvious over Saito et al. (U.S. Patent No. 6,807,094), either alone or in combination with Mochizuki et al. (U.S. Patent No. 7,054,105) and Rizzo (U.S. Patent No. 6,430,085). However, none of these references, alone or in combination, disclose or suggest the claimed invention, and Applicants respectfully request that this rejection be withdrawn.

Saito et al. discloses a magnetic memory that includes a magnetoresistance effect element and a pair of write-in wires (BL and WL) formed in the upper and lower sides of a magnetoresistance effect element. The write-in wires are “directed in a crossing fashion”, perpendicular to one another. (See Fig. 1 of Saito et al.). Both wires BL and WL have a covering layer on their circumferences to prevent leakage of a magnetic field from the wires. The purpose of the covering layer is to prevent “write-in cross talk” to adjacent memory cells. Although Saito et al. mentions in passing that their invention contemplates in its scope all magnetic heads including vertical recording heads, there is no disclosure or structure provided in Saito et al. how such an application could be created.

Mochizuki describes a vertical recording head, but does not teach or suggest magnetic cladding to improve performance of the head. Nor does Mochizuki disclose or suggest an improvement to a vertical recording head achieved by directing a magnetic field produced by the write coil toward the main pole while minimizing the field in other directions. There is no indication in Mochizuki that a structure like Saito could be beneficial in a vertical recording heading, let alone how it would be used.

Rizzo shows another magnetic memory like Saito. It does not teach or suggest a magnetic write head like the present invention. In particular, Rizzo does not teach or suggest the

benefit of directing the magnetic field generated by a write coil of a magnetic write head toward a main pole while minimizing the field in other directions.

Claims 1 has been amended to clarify that the main pole is “for writing data to a magnetic medium.” Also, claim 1 has been amended to clarify that the means for directing the magnetic field produced by the conductive coil toward the main pole also minimizes the magnetic field in directions other than toward the write pole. Saito et al. does not disclose a write pole, and the purpose of its covering layer is to prevent writing to adjacent memory cells. Thus, the two wires disclosed in Saito et al. do not have their covering layers arranged so as to minimize a magnetic field in directions other than toward a write pole. There is nothing in Saito et al. or the other references that teaches, suggests or discloses the claimed structure.

Similarly, independent claim 9 has been amended to clarify that the main pole and return pole are “for writing data to a magnetic medium.” In addition, claim 9 has been amended to clarify that the ferromagnetic cladding directs “the magnetic field produced by the conductive coil toward the main pole and away from the return pole”. Saito et al. does not disclose a write pole or a return pole, and the purpose of its covering layer is to prevent writing to adjacent memory cells. Thus, the two wires disclosed in Saito et al. do not have their covering layers arranged so as to direct a magnetic field toward a main pole and away from a return pole. Nor is there any recognition in Saito et al. that directing the magnetic field produced by the write coil toward the write pole and away from the return pole (or other structures that could provide a return path from the magnetic medium) would be advantageous. There is nothing in Saito et al. or the other references that teaches, suggests or discloses such a structure.

Finally, independent claim 19 has been amended in a similar manner as claim 9, and for the reasons discussed above with respect to claim 9, claim 19 is also patentable over Saito et al and the other references cited.

Claim 26 has been amended to make it consistent with amended claim 19.

Claims 2-8 are dependent claims that depend on claim 1, claims 10-18 are dependent claims that depend on claim 9, and claims 20-34 are dependent claims that depend on claim 19.

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Application No.: 10/809,245

-10-

Because the independent claims are patentable over Saito et al. and the other references, the dependent claims are also patentable. Allowance of claims 1-34 is therefore respectfully requested.

II. Conclusion

With the amendments made to claims 1, 9, 19, and 26, this application is now in condition for allowance. Notice to that effect is requested.

Respectfully submitted,

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